

ABSTRACT

The present invention provides a vertical current-type magneto-resistive element. The element includes an intermediate layer and a pair of magnetic layers sandwiching the intermediate layer, and at least one of a free magnetic layer and a pinned magnetic layer is a multilayer film including at least one non-magnetic layer and magnetic layers sandwiching the non-magnetic layer. The element area defined by the area of the intermediate layer through which current flows perpendicular to the film is not larger than $1000\mu\text{m}^2$.